

Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-25. (cancelled)

26. (currently amended) A system for an engine with intake manifold comprising:

an outlet control device controlling flow exiting the manifold and entering the engine, said outlet control device including variable valve lift;

an inlet control device controlling flow entering the manifold, said inlet control device including an electronically controlled throttle plate;

a fuel injector coupled to a cylinder of the engine capable of directly injecting fuel into the cylinder [[+]]during an intake stroke to form a homogenous air-fuel mixture[[+]];

an oxygen sensor coupled in an exhaust of the engine;
and

a controller determining a desired engine speed, adjusting said outlet control device to provide said desired engine speed, adjusting said inlet control device based on an operating parameter, and adjusting fuel injected into the engine based on said oxygen sensor.

27. (previously presented) The system of claim 26 further comprising a three-way catalyst coupled in said exhaust.

28. (previously presented) The system of claim 27 wherein said sensor is located upstream of said three-way catalyst.

29. (previously presented) The system of claim 26 wherein said controller further adjusts said inlet control device based on an error between said desired engine speed and a determined engine speed.

30. (previously presented) The system of claim 26 wherein the engine is a v-type dual bank engine.

31. (previously presented) The system of claim 26 wherein said controller directly injects fuel into the cylinder during the intake stroke so that a substantially homogeneous air/fuel mixture is formed during a stoichiometric mode of operation.

32. (previously presented) The system of claim 26 wherein said controller adjusts fuel injected directly into the engine via said fuel injector based on said oxygen sensor to maintain a stoichiometric air-fuel ratio.

33. (previously presented) A system for an engine with intake manifold comprising:

an outlet control device controlling flow exiting the manifold and entering the engine, said outlet control device including variable valve lift;

an inlet control device controlling flow entering the manifold, said inlet control device including an electronically controlled throttle plate;

a fuel injector coupled to a cylinder of the engine capable of directly injecting fuel into the cylinder during an intake stroke to form a homogenous air-fuel mixture;

an oxygen sensor coupled in an exhaust of the engine;

a three-way catalyst converter coupled in said exhaust;

and

a controller determining a desired engine speed, adjusting said outlet control device to provide said desired engine speed, adjusting said inlet control device based on an operating parameter, and adjusting fuel injected directly into the engine via said fuel injector based on said oxygen sensor to maintain a stoichiometric air-fuel ratio.

34-39. (cancelled)

40. (new) A system for an engine with intake manifold comprising:

a means for controlling flow exiting the manifold and entering the engine, said outlet control device including variable valve lift;

a means for controlling flow entering the manifold, said inlet control device including an electronically controlled throttle plate;

a means for directly injecting fuel into the cylinder during an intake stroke to form a homogenous air-fuel mixture;

an oxygen sensor coupled in an exhaust of the engine;
and

a means for determining a desired engine speed, adjusting said means for controlling flow entering the manifold to provide said desired engine speed, adjusting said a means for controlling flow entering the manifold based on an operating parameter, and adjusting fuel injected into the engine based on said oxygen sensor.

41. (new) A system for an engine with intake manifold comprising:

- a means for controlling flow exiting the manifold and entering the engine, said means for controlling flow exiting the manifold including variable valve lift;

- a means for controlling flow entering the manifold, said inlet control device including an electronically controlled throttle plate;

- a fuel injector coupled to a cylinder of the engine capable of directly injecting fuel into the cylinder during an intake stroke to form a homogenous air-fuel mixture;

- an oxygen sensor coupled in an exhaust of the engine;

- a three-way catalyst converter coupled in said exhaust;

and

- a means for determining a desired engine speed, adjusting said means for controlling flow exiting the manifold to provide said desired engine speed, adjusting said means for controlling flow entering the manifold based on an operating parameter, and adjusting fuel injected directly into the engine via said fuel injector based on said oxygen sensor to maintain a stoichiometric air-fuel ratio.